<u>**REMARKS**</u>

Reconsideration and allowance of this application are respectfully requested based on the following analysis

1.   Overview of Office Action

Claims 17-21 are objected to under 37 C.F.R. § 1.75(c), as allegedly being of improper dependent form.

Claims 1-5, 13 and 16[1] are rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter.

Claims 1-3, 6-8, and 11-13 and 16-21 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Igarashi in view of Maturi et al. (US 5,731,850 A; hereafter "Maturi"), in view of Acampora et al. (US 5,168,356 A; hereafter "Acampora"), and in view of Ng et al. (US 5,185,819 A; hereafter "Ng").

Claims 4, 5, 9, and 10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Igarashi, Maturi, Acampora and Ng as applied to claims 1 and 6 above, and further in view of Legal (US 5,878,166 A).

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[1] This appears to be a typographical error of claim 17.

2.   Claim Objection

In objecting to **claim 17**, the Examiner asserts that claim 17 fails to further limit the

subject matter of the previous claim (claim 1). Applicant respectfully traverses the objection as

follows.

Claim 1 recites, in part:

> wherein operations (c) and (d) are performed without using any of
> an interpolative frame SAD, an interpolative top field SAD, and an
> interpolative bottom field SAD.

To further define the above aspect, claim 17 recites:

> wherein operations (c) and (d) are performed without performing
> an initial interpolative MC[2] to produce the interpolative frame
> SAD, the interpolative top field SAD, and the interpolative bottom
> field SAD.

A difference between the above two aspects is "an interpolative MC". That is, claim 17

defines that any of the interpolative SADs recited in claim 1 is produced by performing an initial

interpolative MC, since the interpolative SADs or the same/equivalent values may be provided in

any other method than the initial interpolative MC. Thus, claim 17 clearly further limits the

subject matter of claim 1.

Accordingly, Applicant respectfully requests withdrawal of the objection to claim 17 and

corresponding **claims 18-20**.

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[2] motion compensation

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3.   Claim Rejection under 35 U.S.C. § 101

In this Amendment, Applicant amends claim 1 based on the original disclosure (e.g., existing apparatus claim 6), and respectfully requests withdrawal of the § 101 rejection of claim 1-5 and 17.

With respect to computer-related claim 13, Applicant amends paragraph 59 of the specification by more clearly defining the computer readable recording medium, and respectfully requests withdrawal of the § 101 rejection of the computer-related claim

4.   Prior Art Rejection

In rejecting claim 1, the Examiner's basic position is that Igarashi and Maturi disclose receiving the six different SADs as inputs to determine an MC mode among various MC modes including the interpolative filed MC mode and interpolative frame MC mode.

In this respect, as the Examiner explains in the instant office action, Igarashi (col. 12, line 44 to col. 13, line 22) may be alleged to disclose selecting a motion prediction method among a field-based motion prediction and a frame-based motion prediction after comparing field SADs (FDAD) and frame SADs (FMAD). It should be noted, however, that Igarashi does not disclose whether an interpolative field MC mode and an interpolative frame MC mode is a subject of various MC modes to be selected. This deficiency is not remedied by Maturi and any other cited references.

Moreover, the Examiner does not specifically state in the office action how the cited references teach or suggest that, in selecting an MC mode, any of an interpolative frame SAD, an interpolative top field SAD and an interpolative bottom filed SAD is <u>not</u> used.

Igarashi fails to teach or suggest <u>not using</u> any of the interpolative SADs in determining a

prediction mode when this reference discloses at col. 19, line 10 obtaining a minimum of the

forward prediction, the backward direction and the bi-directional prediction for determining a

prediction mode, because the bi-directional prediction necessarily results in interpolative SADs.

The Examiner also appears to admit that Igarashi fails to disclose generating interpolative SADs

at page 10, line 19 of the instant office action. The only indication by the Examiner regarding

this characteristic of the claimed method is noted from the previous office action at page 13,

lines 9-12 which explains how claims 14-16 are rejected in view of Acampora and Ng.[1]

However, Acampora clearly discloses at col. 7, lines 62-67 that when both forward and

backward motion vectors (MVs) are used, an interpolated frame is generated from the forward

and backward predicted frames in accordance with the ratio of distortion signals. This disclosure

only clarifies that Acampora performs an interpolative (bi-directional) MC to generate an

interpolated frame, which does not correspond to the claimed <u>not using</u> an interpolative frame

SAD. Ng also discloses generating an interpolated field at col. 7, lines 21-24, which does not

correspond to the claimed <u>not using</u> an interpolative field SAD. Thus, Acampora and Ng fail to

remedy the deficiency of Igarashi in this respect. This deficiency is also not made up for by

Maturi.

Further, it should be noted again that the B frame processing (col. 18, lines 64-65) of

Igarashi clearly requires the bidirectional prediction (corresponding to interpolation) to obtain a

minimum of the forward prediction, the backward prediction, and the bidirectional prediction,

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[1] The features recited in claim 14 was added to claim 1 to constitute the above characteristics in the
    previous Amendment filed September 16, 2008.

because, without (i.e., omitting) this bidirectional prediction, an intended minimum is determined only between the forward prediction and the backward prediction. That being said, even if any cited reference teaches or suggests not using a bidirectional prediction or interpolative prediction, not using a bidirectional prediction (i.e., not producing and using an interpolative SAD) is <u>not</u> consistent with the Igarashi invention, and thus, determination only between the forward prediction and the backward prediction (i.e., the remaining elements) cannot select a prediction with a minimum predictive error (i.e., perform the same function as before).

It has been well settled that "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Since modification of Igarashi by not using a bidirectional prediction corresponding to interpolative MC to produce an interpolative SAD may render Igarashi's coding apparatus unsatisfactory for its intended purpose, there is no suggestion or motivation not to use the bidirectional prediction, that is, not using an interpolative SAD as recited in the claimed method.

At least for the foregoing reasons, Applicant respectfully submits that method claim 1 and corresponding apparatus claims 6 and 11-13 should not be rendered obvious over the cited references.

Claims 2-5, 7-10 and 16-21 should be allowable at least due to their dependencies and additionally recited elements.

5.   Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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23373

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Date: April 17, 2009